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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/003,259	12/06/2001	Yoshiyuki Hata	P67192US0	4457

7590 12/27/2005

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WASHINGTON, DC 20004

EXAMINER

SHAH, CHIRAG G

ART UNIT	PAPER NUMBER
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2664

DATE MAILED: 12/27/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/003,259

Applicant(s)

HATA, YOSHIYUKI

Examiner

Chirag G. Shah

Art Unit

2664

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 06 December 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-12 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-12 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 112

1. The claims 1-12 are generally narrative and indefinite, failing to conform with current U.S. practice. They appear to be a literal translation into English from a foreign document and are replete with grammatical and idiomatic errors.

2. Claim 1 rejected as failing to define the invention in the manner required by 35 U.S.C. 112, second paragraph.

The claim(s) are narrative in form and replete with indefinite and functional or operational language. The structure which goes to make up the device must be clearly and positively specified. The structure must be organized and correlated in such a manner as to present a complete operative device. The claim(s) must be in one sentence form only. Note the format of the claims in the patent(s) cited.

3. Claim 1 recites the limitation "said band division number" in line 6. There is insufficient antecedent basis for this limitation in the claim.

4. Claim 2 recites the limitation "said band division number" in line 6. There is insufficient antecedent basis for this limitation in the claim.

5. Claim 4 recites the limitation "said band division number" in lines 12-13. There is insufficient antecedent basis for this limitation in the claim.

Claim Objections

6. Claim 1 objected to because of the following informalities:

7. In claim 1, line 3, after “each of signals”, add “of”; and after “band-divided” add into a plurality.

In claim 1, line 4 after the word, “synthesized” replace the “,” with a “:” Examiner suggests appropriate correction is required..

In claim 1, line 9, before “each signal”, insert an appropriate antecedent.

In claim 1, line 9, after “each signal”, insert “is”. Appropriate correction is required.

In claim 1, line 9, after “said distributed”, delete “so as”. Appropriate correction is required.

In claim 1, line 11, after “each signal”, insert “of”. Appropriate correction is required.

In claim 1, line 13, after “said”, insert “each”. Appropriate correction is required.

In claim 2, line 2, after “signals”, insert “of”. Appropriate correction is required.

In claim 2, line 8, before, “that”, insert “such”. Appropriate correction is required.

In claim 2, line 10, after “said distributed”, delete “so as”. Appropriate correction is required.

In claim 2, line 17, after “said”, insert “each”. Appropriate correction is required.

In claim 3, line 4, after “signal”, insert “of”. Appropriate correction is required.

In claim 4, line 3, after “signals”, insert “of”. Appropriate correction is required.

In claim 4, line 5, after “section”, insert “of the plurality of frequency conversion sections”. Appropriate correction is required.

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In claim 4, line 6, before, “RF”, insert “said” or “the”. Appropriate correction is required.

In claim 4, line 15, before, “that”, insert “such”. Appropriate correction is required.

In claim 4, line 18, after “said distributed”, delete “so as”. Appropriate correction is required.

In claim 4, line 14, after “section”, insert “of the plurality of frequency conversion sections”. Appropriate correction is required.

In claim 4, line 23, after “section”, insert “of the plurality of frequency conversion sections”. Appropriate correction is required.

In claims 5 and 6 contain similar informalities as listed above. Appropriate correction is required.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Chirag G. Shah whose telephone number is 571-272-3144. The examiner can normally be reached on M-F 8:30-5:00.

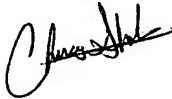
If attempts to reach the examiner by telephone are unsuccessful, the examiner’s supervisor, Wellington Chin can be reached on 571-272-3134. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

cgs

December 12, 2005

A handwritten signature in black ink, appearing to read 'Chirag Shah', is written over a horizontal line.

Chirag Shah,
Patent Examiner, 2664

455 cascaded 15'

109021 652E0001

BASBAND

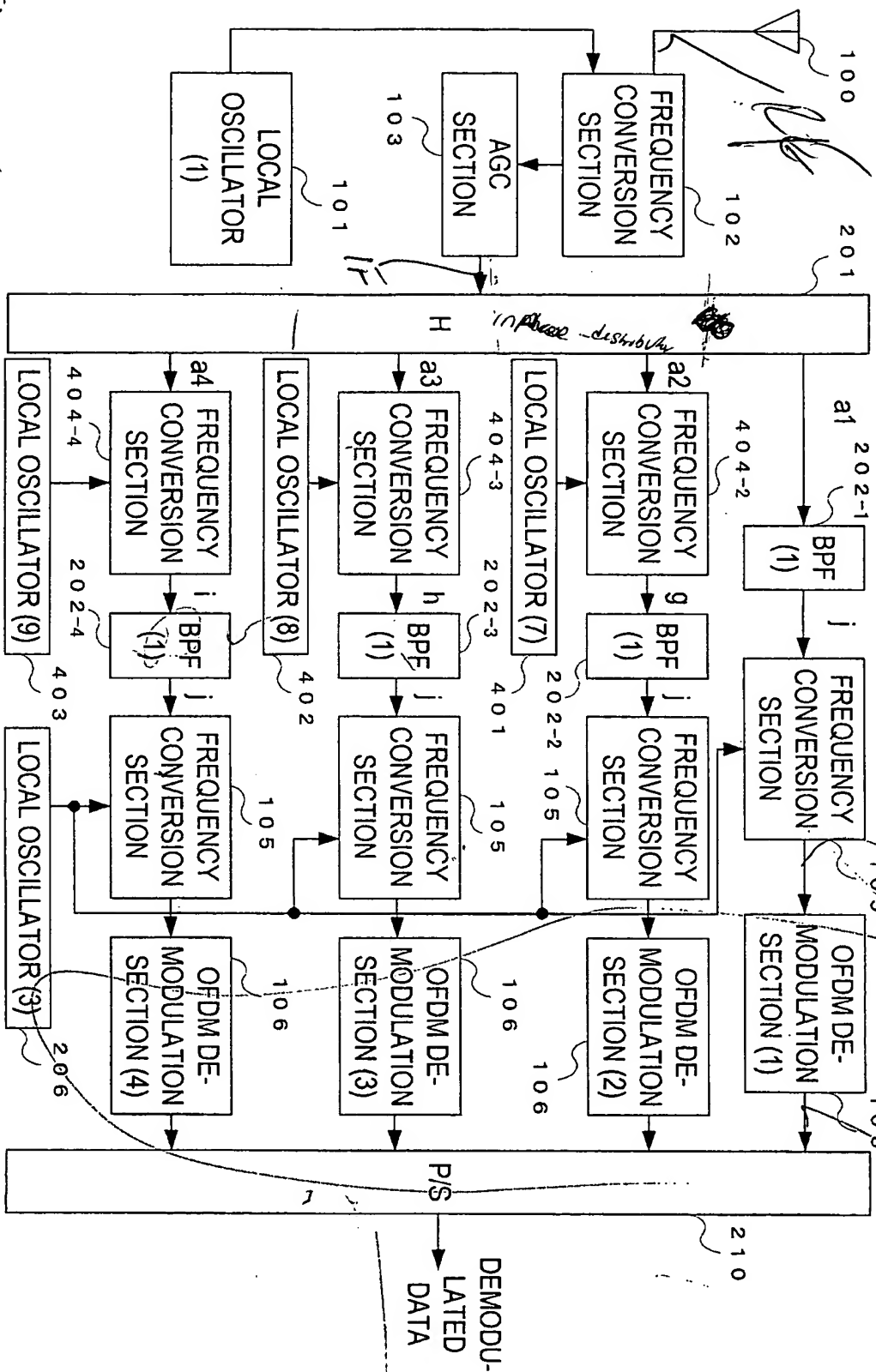
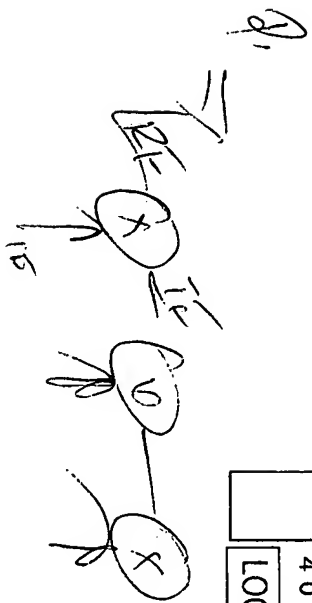


FIG. 1

1/5



326/260

235

Reference filter

222

Subband or Subcarrier

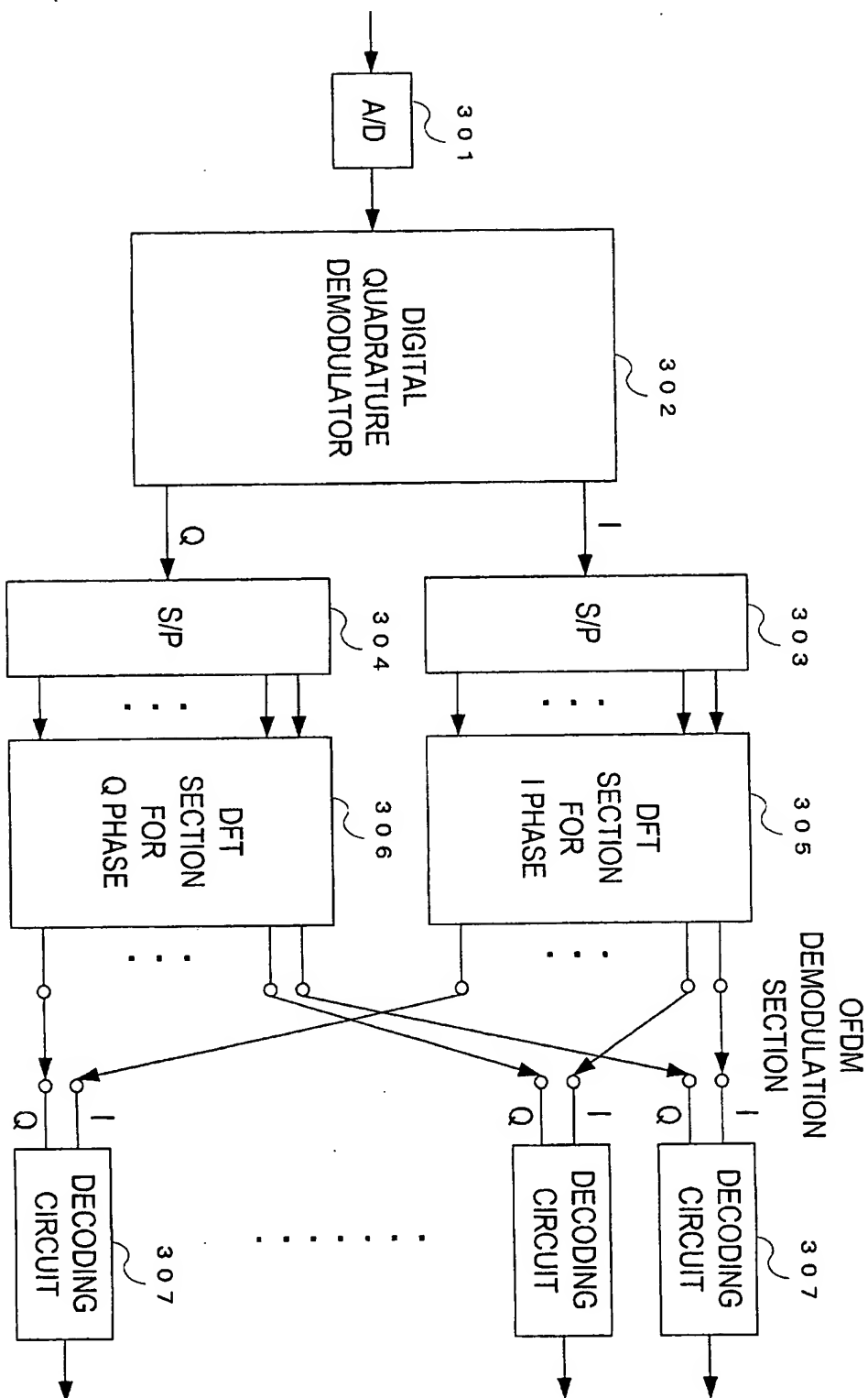
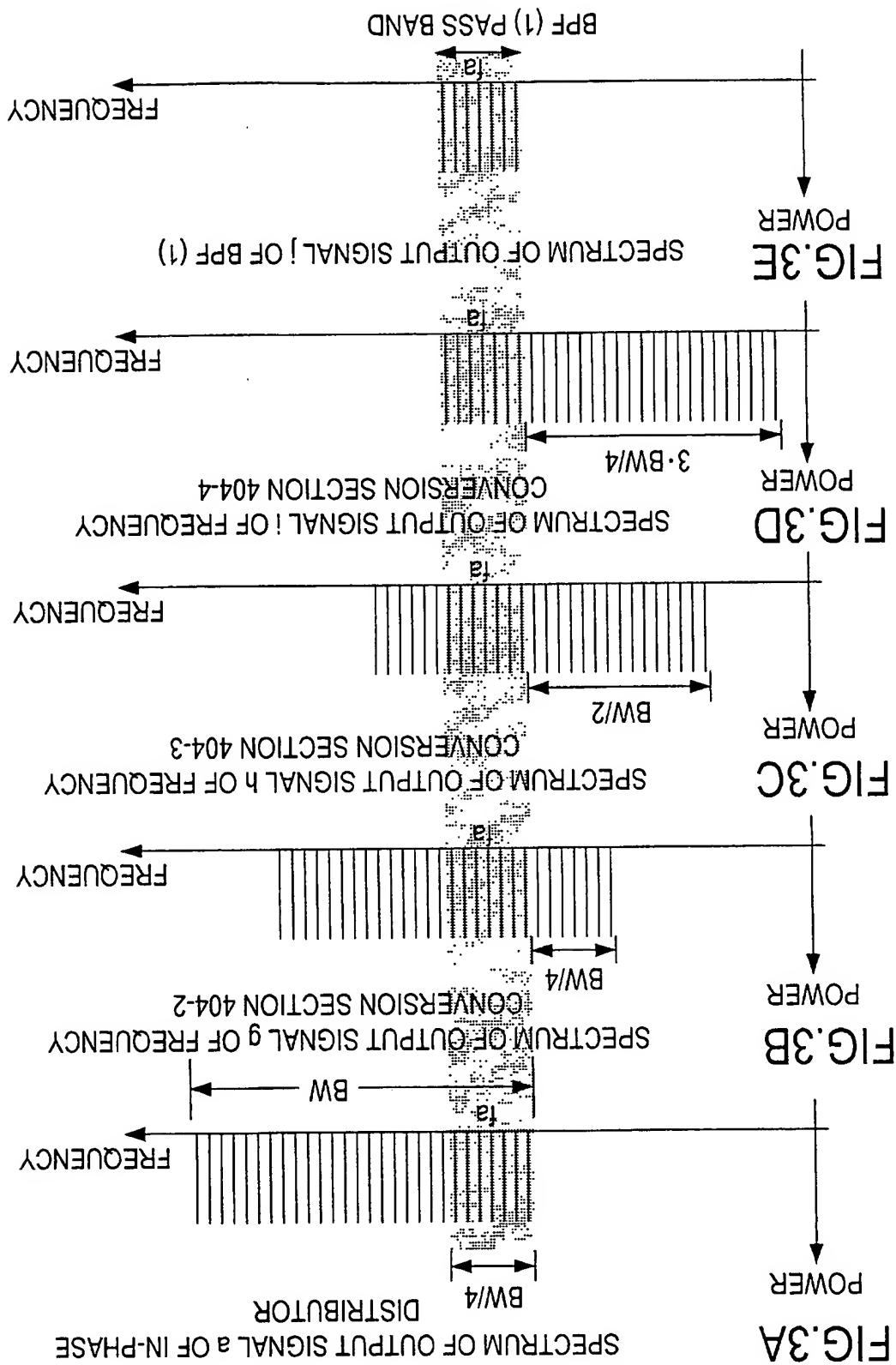


FIG. 2



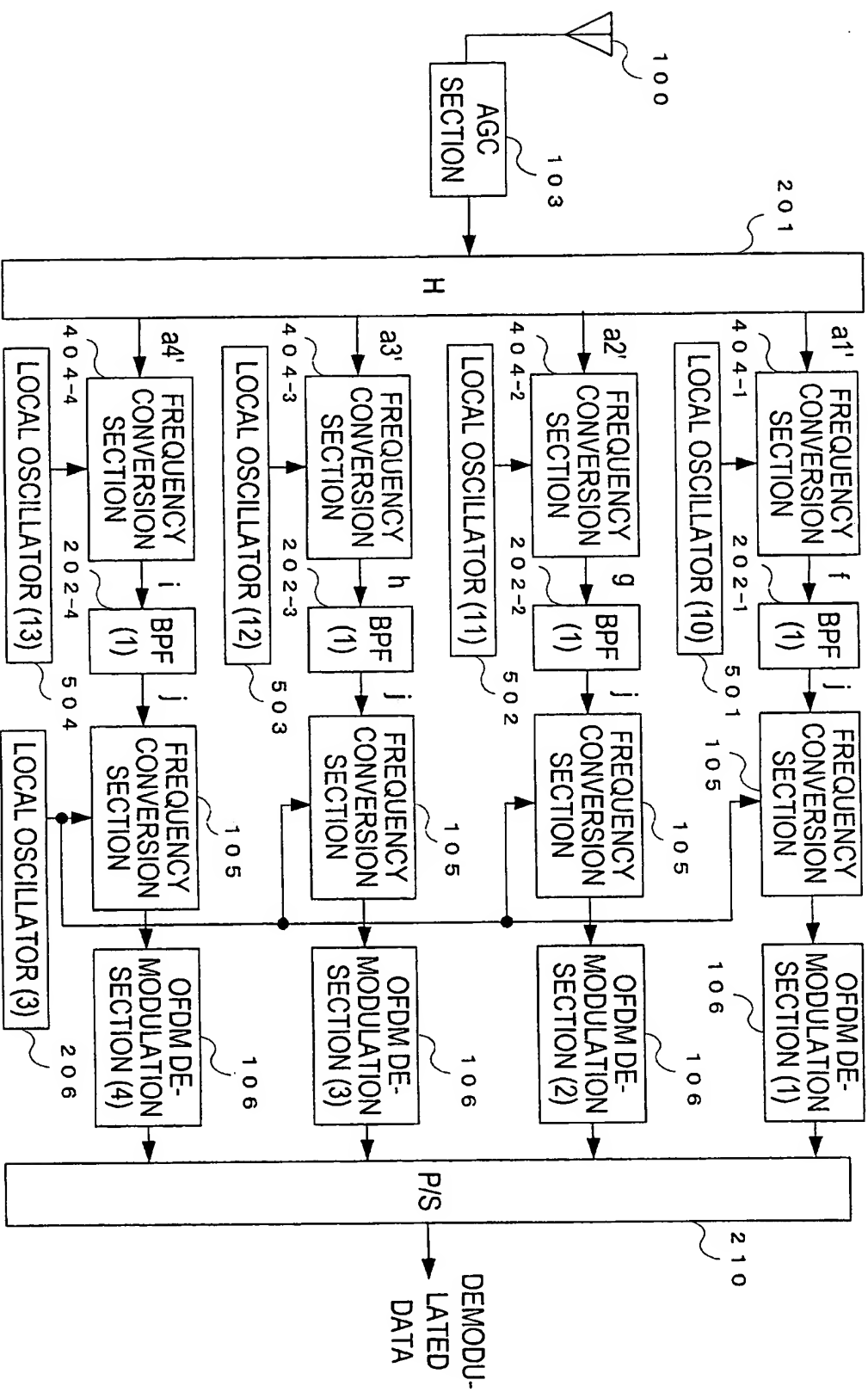


FIG. 4

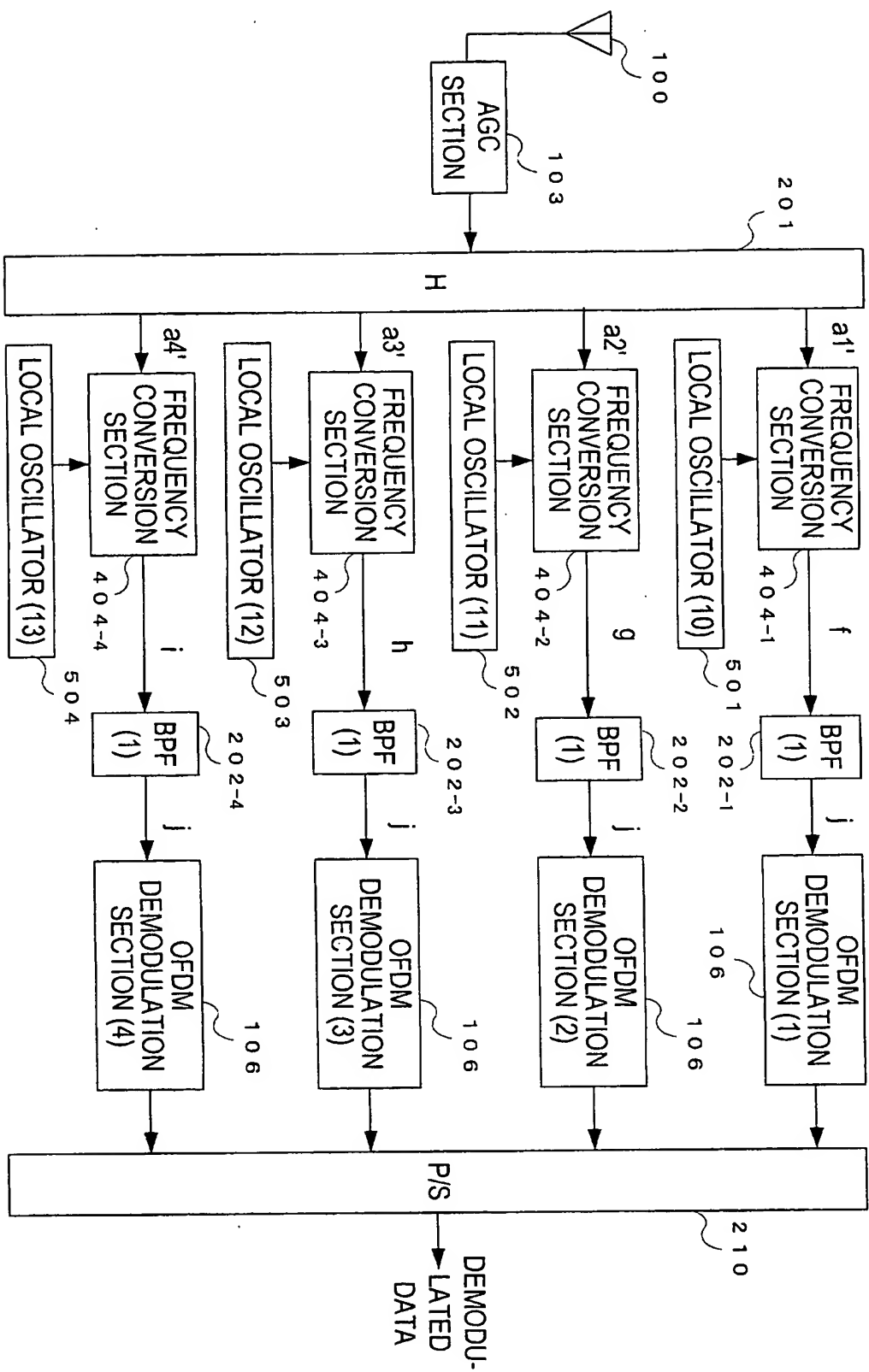


FIG. 5